AMC Quality Federation (AQF) for a Transforming Army

Presented to:

Major General Mitchell Stevenson

AMC G-3

Diane Meyer

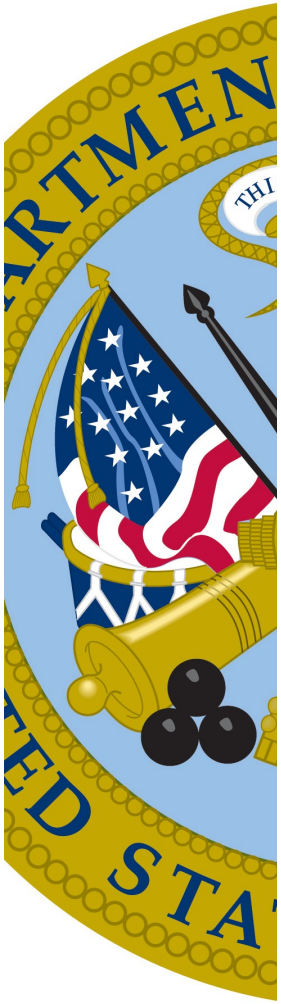
AMC Quality Federation Customer Liaison

11 Feb 2004

Bottom Line Up Front

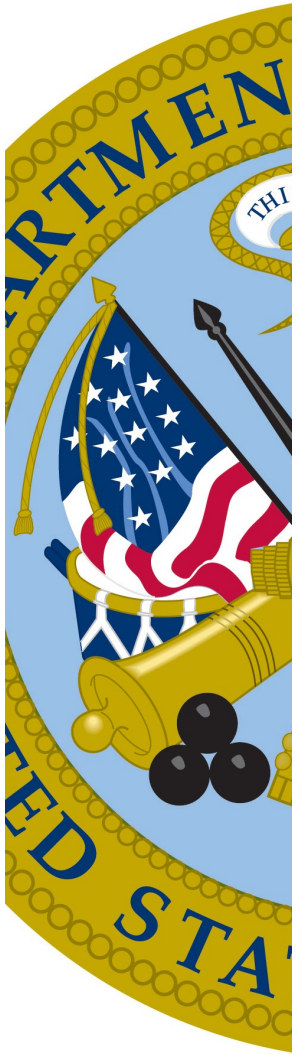
- Quality & System Assurance (Q&SA) plays a Pivotal Role in Army Transformation
- The AMC Quality Federation (AQF) is an AMC Community of Practice (COP) that provides a *virtual, integrated* business framework through which *quality issues can be addressed, evaluated and acted upon*
- The AQF has created a strategic vision for the long-term *integration of core quality competencies and processes*. This Strategy is called ”Quality for the 21st Century” (Q_{21})
- The AQF is Adding Value to the Army’s Mission
- Long-term Stability Necessitates Command-level Involvement

Status of Army Quality



- Subset of Systems Engineering (ASAALT)/Industrial Operations (AMC) at HQ
  - Resources Limited
  - Increasing Reliance Upon Sub-Commands
- De-Centralization in Several Commodity Areas
  - Strained (but Improving) Intra-Army Quality Communication
  - Some Quality Professionals Managed by PEOs/PMs
  - Functional Integrity/Core Competencies in Jeopardy
- Acquisition Community Reorganized

Army Quality Challenges



- Risk-based/Business-based Implementation of Commercial Quality Practices
- Support to “Acquisition Excellence” Principles
- The Army needs to be an Educated Customer and Proactive Partner
  - Proficient in Related Competencies
  - Provide Detailed RFP/Contract Language
    - Basic Quality
    - Advanced Quality/Quality Engineering
    - Continuous Improvement Partnerships
  - Funding Profiles & Contract Incentives Consistent w/ Life Cycle Objectives
  - Risk-based Quality Supplier Management
    - Partnership with DCMA, et al.

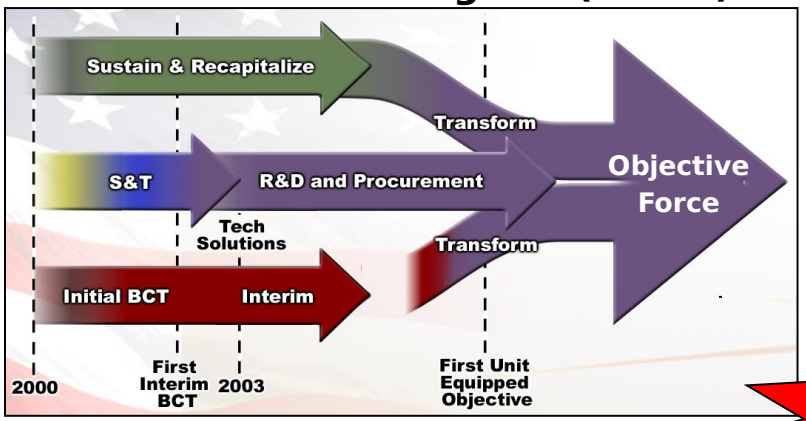
Transformation Quality Roadmap

Skilled Industrial Base

Robust Designs & High-Quality Products

Army Transformation Reliability Improvement Program (ATRIP)

High RMS Systems



Reduced Logistics Footprint

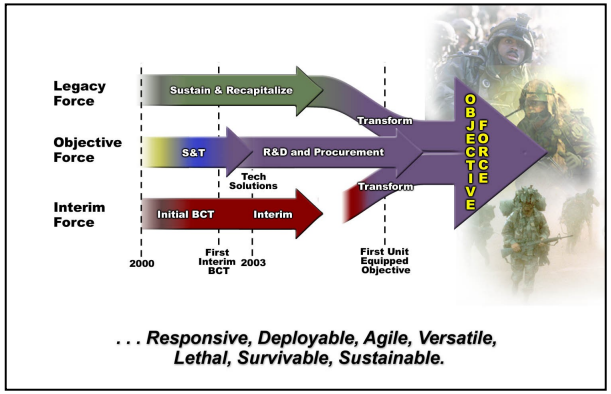
Shortening the Acquisition Life Cycle

Light Response w/ Heavy Lethality &
Reduced Life Cycle Cost

MS of Objective Force Systems = *f* (Design Reliability, Life Cycle Qualit

Transformational Quality

- Army Transformation Requires an Evolution in Life Cycle Quality Management
- Army Quality must Add Value to Program Managers to Remain Relevant
  - Materiel & Process Performance
  - Total Ownership Cost
  - Program Risk
- Army Quality must Possess the Necessary Skills, Tools and Techniques



AMC Quality History

- AMC Product Assurance & Test Directorate (S.J. Lorber)
  - Disbanded in the Late 1980's
  - De-centralization of Quality
- Product Assurance Quality Management Board (PAQMB)
  - Formed in the Early 1990's
  - Championed by AMC Principle Deputy for Acquisition (D. Adams)
  - Discussed Quality Issues
  - No Coordinated Activity
- HQ AMC Quality Mission Currently Resides with Deputy G-3 for Industrial Operations
  - One 1910 Position
  - Too Many Hats to be Fully Engaged
  - Quality Fragments in Other Divisions, i.e. Current OPS, Support OPS
- AMC Quality Federation
  - Formed in 2000

AMC Quality Federation (AQF)

What is it?

- A seamless, integrated, virtual structure that leverages quality resources from all AMC organizations to support the Transformation of the Army
- An AMC Quality Community of Practice
- The Single Voice for AMC Quality
- Chaired by the Director for Quality Engineering & System Assurance, RDECOM-ARDEC

Who is it?

- AMCOM
  - LEAD
  - CCAD
- CECOM
  - TYAD
- JMC
- RDECOM
- TACOM
  - GSIE
  - RRAD
  - ANAD
  - SIAD
  - WVA

Stakeholders: ASA(ALT) Partners: DCMA, NASA, JDPA A

AMC Quality Federation (AQF)

Why it was Formed?

- Superceded PAQMB
- Modeled after TACOM Quality Federation
- Championed by AMC Principle Deputy for Acquisition (G. Tull & S. Flavin)
- Lead/Facilitate AMC Quality Transformation
- Provide AMC with a strong, cohesive and comprehensive quality voice
- Create a business environment to share best practices and maintain core competencies
- Leverage scarce quality resources

AQF Strategic Vision – Q_{21}

Solution Set #1:

Internal Quality Management

(Improve Ourselves)

- Core Competencies
- Quality SPIs
- IDEs

STRONG TOOLKITS

- ISO/AS/Q S
- LEAN/6σ
- CMMI
- ATRIP Tools

Partners:

NASA

DEFENSE CONTRACT MANAGEMENT AGENCY
DEPARTMENT OF DEFENSE

J.D. POWER AND ASSOCIATES

Solution Set #2:

Quality Supplier Management

(Improve our Suppliers)

- Supplier Management Evolution
- Gov't & Commercial Partnerships
- Use of Past Performance Info
- Promote & Incentivize World

AQF Initiatives

- AMC CG briefed CQSDI March 03 on behalf of AQF
- Transformed/Redeveloped Independent Quality Organizations at CCAD, RRAD and ANAD
- Partnerships with NASA, OSD, ASA(ALT), DCMA, etc
  - *Reference, 8 Oct 03 MOA with NASA*
- AQF is the recognized Quality Voice for RDECOM
  - *Reference, 19 Sep 03 RDECOM Memorandum*
- AQF Endorsement
  - *Reference 6 Jan 04 AMC Memorandum*
- ATRIP, LMP, Lean/6σ, and a J.D. Power's Voice of the Customer Pilot
  - JDPA Brief to ASA(ALT), Date TBD
- Common Toolkits
- Collectively working initiatives, i.e. AMC PQDR Steering Committee
- Established an AQF Liaison at AMC HQ

AQF Liaison

- Assigned to HQ, AMC
  - Effective May 2003
  - Office of the Deputy G3 for Industrial Operations
- Objectives:
  - D.C. Area AQF POC
  - Proactive Customer Satisfaction
  - Q&SA G2
  - Facilitate/Coordinate AQF Initiatives
    - Core Competencies
    - Process Transformation
    - Lean/6σ
    - Supplier Management
    - Partnerships

AQF Benefits to AMC

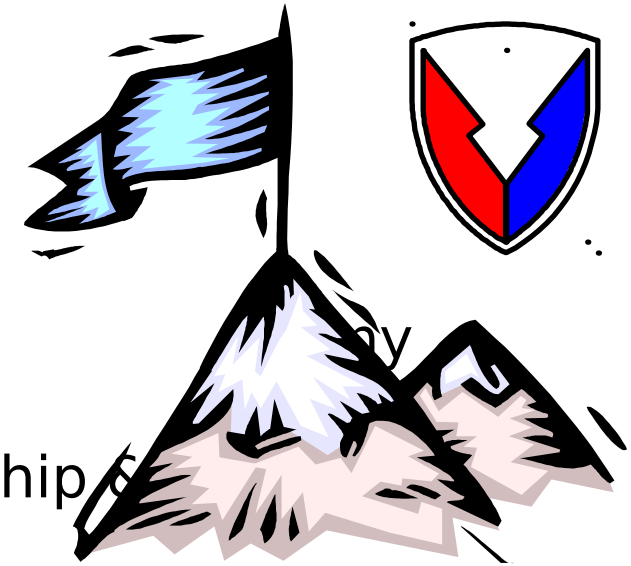
- AMC's Source for Corporate Knowledge on Quality
- Vehicle through which to Evolve AMC Quality Practices
- Promotes Quality Data-Exchange & Lessons-Learned Across AMC
- The Single "Face" of AMC Quality to the Outside World, including;
  - ASA(ALT)
  - OSD
  - NASA
  - DCMA
- Ready Source of Quality POCs to Tap for Quick Response
  - DCMA DFARS cases
  - Joint PQDR AR 702-7
  - Jump Started the stalled PQDR LMP issues

The Role of the G-3?

- 2-Star HQ Quality Champion/Advocate
- Monitor AQF Activities
  - Periodic Reviews
- Make Recommendations to AQF
  - HQ Vision
  - Set Priorities
  - New Initiatives
  - G2
- Promote & Facilitate “Beltway” Partnerships
- Help Acquire Needed Resources
- Consolidate HQ Quality activities
  - Direct, independent line to G-3
  - Align quality functions under a single group/identify quality POCs from other G-3 divisions as matrixed support

Take-a-Ways

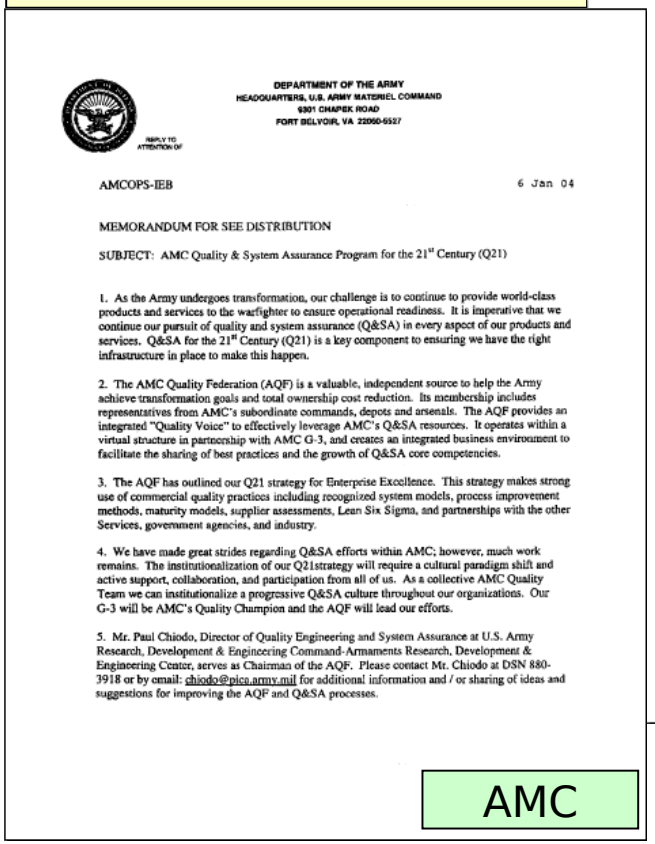
- Quality is Important for Transformational Success
- HQ Resources are Limited
- The AQF Q_{21} Strategic Vision
  Focuses on Essential Issues for wide Quality Influence
- AQF Provides the Required Leadership & Competencies
- AQF Partnering with AMCOPS-IB
- A G-3 Quality Champion provides needed HQ Visibility



Back up

AQF "Marching Orders"

"As a collective AMC Quality Team we can institutionalize a progressive Q&SA culture throughout our organizations."
General Paul J. Kern, AMC
06 Jan 2004



DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY MATERIEL COMMAND
9301 CHAPEK ROAD
FORT BELVOIR, VA 22060-5527

REPLY TO ATTENTION OF

AMCOPS-IEB 6 Jan 04

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: AMC Quality & System Assurance Program for the 21st Century (Q21)

1. As the Army undergoes transformation, our challenge is to continue to provide world-class products and services to the warfighter to ensure operational readiness. It is imperative that we continue our pursuit of quality and system assurance (Q&SA) in every aspect of our products and services. Q&SA for the 21st Century (Q21) is a key component to ensuring we have the right infrastructure in place to make this happen.

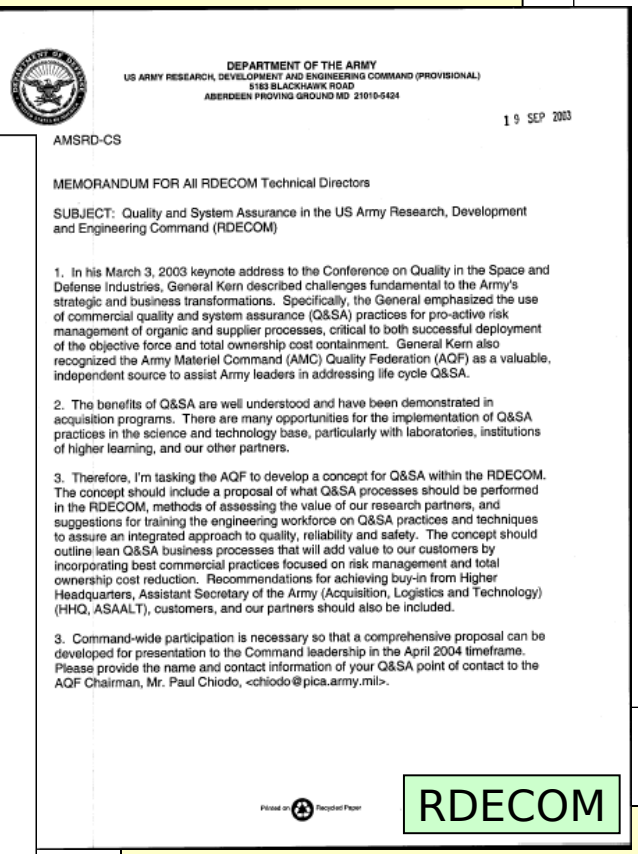
2. The AMC Quality Federation (AQF) is a valuable, independent source to help the Army achieve transformation goals and total ownership cost reduction. Its membership includes representatives from AMC's subordinate commands, depots and arsenals. The AQF provides an integrated "Quality Voice" to effectively leverage AMC's Q&SA resources. It operates within a virtual structure in partnership with AMC G-3, and creates an integrated business environment to facilitate the sharing of best practices and the growth of Q&SA core competencies.

3. The AQF has outlined our Q21 strategy for Enterprise Excellence. This strategy makes strong use of commercial quality practices including recognized system models, process improvement methods, maturity models, supplier assessments, Lean Six Sigma, and partnerships with the other Services, government agencies, and industry.

4. We have made great strides regarding Q&SA efforts within AMC; however, much work remains. The institutionalization of our Q21strategy will require a cultural paradigm shift and active support, collaboration, and participation from all of us. As a collective AMC Quality Team we can institutionalize a progressive Q&SA culture throughout our organizations. Our G-3 will be AMC's Quality Champion and the AQF will lead our efforts.

5. Mr. Paul Chiodo, Director of Quality Engineering and System Assurance at U.S. Army Research, Development & Engineering Command-Armaments Research, Development & Engineering Center, serves as Chairman of the AQF. Please contact Mr. Chiodo at DSN 880-3918 or by email: chiodo@pica.army.mil for additional information and / or sharing of ideas and suggestions for improving the AQF and Q&SA processes.

AMC



DEPARTMENT OF THE ARMY
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND (PROVISIONAL)
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MD 21010-5424

19 SEP 2003

AMSRD-CS

MEMORANDUM FOR All RDECOM Technical Directors

SUBJECT: Quality and System Assurance in the US Army Research, Development and Engineering Command (RDECOM)

1. In his March 3, 2003 keynote address to the Conference on Quality in the Space and Defense Industries, General Kern described challenges fundamental to the Army's strategic and business transformations. Specifically, the General emphasized the use of commercial quality and system assurance (Q&SA) practices for pro-active risk management of organic and supplier processes, critical to both successful deployment of the objective force and total ownership cost containment. General Kern also recognized the Army Materiel Command (AMC) Quality Federation (AQF) as a valuable, independent source to assist Army leaders in addressing life cycle Q&SA.

2. The benefits of Q&SA are well understood and have been demonstrated in acquisition programs. There are many opportunities for the implementation of Q&SA practices in the science and technology base, particularly with laboratories, institutions of higher learning, and our other partners.

3. Therefore, I'm tasking the AQF to develop a concept for Q&SA within the RDECOM. The concept should include a proposal of what Q&SA processes should be performed in the RDECOM, methods of assessing the value of our research partners, and suggestions for training the engineering workforce on Q&SA practices and techniques to assure an integrated approach to quality, reliability and safety. The concept should outline lean Q&SA business processes that will add value to our customers by incorporating best commercial practices focused on risk management and total ownership cost reduction. Recommendations for achieving buy-in from Higher Headquarters, Assistant Secretary of the Army (Acquisition, Logistics and Technology) (HHQ, ASAALT), customers, and our partners should also be included.

3. Command-wide participation is necessary so that a comprehensive proposal can be developed for presentation to the Command leadership in the April 2004 timeframe. Please provide the name and contact information of your Q&SA point of contact to the AQF Chairman, Mr. Paul Chiodo, <chiodo@pica.army.mil>.

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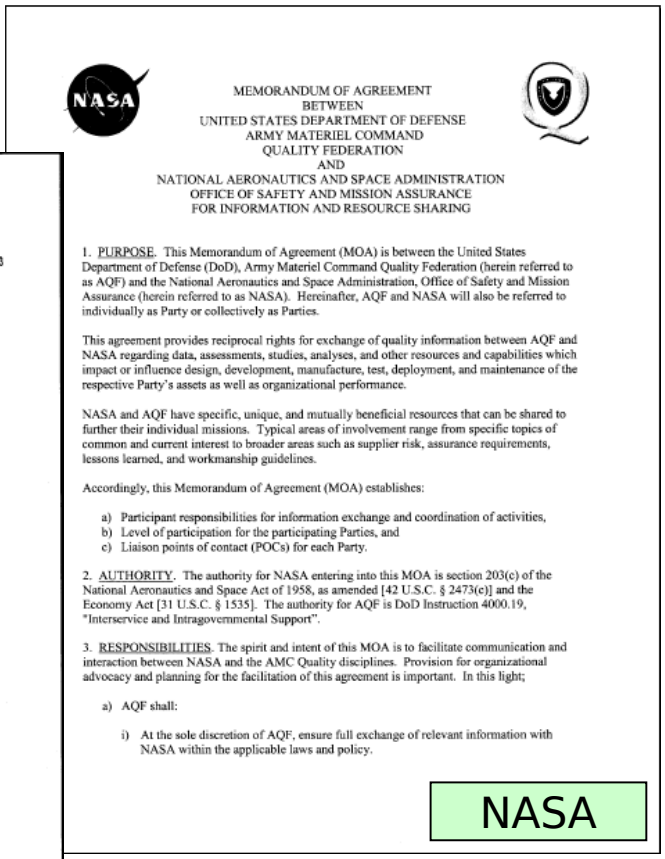
RDECOM



MEMORANDUM OF AGREEMENT
BETWEEN
UNITED STATES DEPARTMENT OF DEFENSE
ARMY MATERIEL COMMAND
QUALITY FEDERATION
AND
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
OFFICE OF SAFETY AND MISSION ASSURANCE
FOR INFORMATION AND RESOURCE SHARING

1. PURPOSE. This Memorandum of Agreement (MOA) is between the United States Department of Defense (DoD), Army Materiel Command Quality Federation (herein referred to as AQF) and the National Aeronautics and Space Administration, Office of Safety and Mission Assurance (herein referred to as NASA). Hereinafter, AQF and NASA will also be referred to individually as Party or collectively as Parties.

This agreement provides reciprocal rights for exchange of quality information between AQF and NASA regarding data, assessments, studies, analyses, and other resources and capabilities which impact or influence design, development, manufacture, test, deployment, and maintenance of the respective Party's assets as well as organizational performance.

NASA and AQF have specific, unique, and mutually beneficial resources that can be shared to further their individual missions. Typical areas of involvement range from specific topics of common and current interest to broader areas such as supplier risk, assurance requirements, lessons learned, and workmanship guidelines.

Accordingly, this Memorandum of Agreement (MOA) establishes:

a) Participant responsibilities for information exchange and coordination of activities,
b) Level of participation for the participating Parties, and
c) Liaison points of contact (POCs) for each Party.

2. AUTHORITY. The authority for NASA entering into this MOA is section 203(c) of the National Aeronautics and Space Act of 1958, as amended [42 U.S.C. § 2473(c)] and the Economy Act [31 U.S.C. § 1535]. The authority for AQF is DoD Instruction 4000.19, "Interservice and Intragovernmental Support".

3. RESPONSIBILITIES. The spirit and intent of this MOA is to facilitate communication and interaction between NASA and the AMC Quality disciplines. Provision for organizational advocacy and planning for the facilitation of this agreement is important. In this light;

a) AQF shall:

i) At the sole discretion of AQF, ensure full exchange of relevant information with NASA within the applicable laws and policy.

NASA

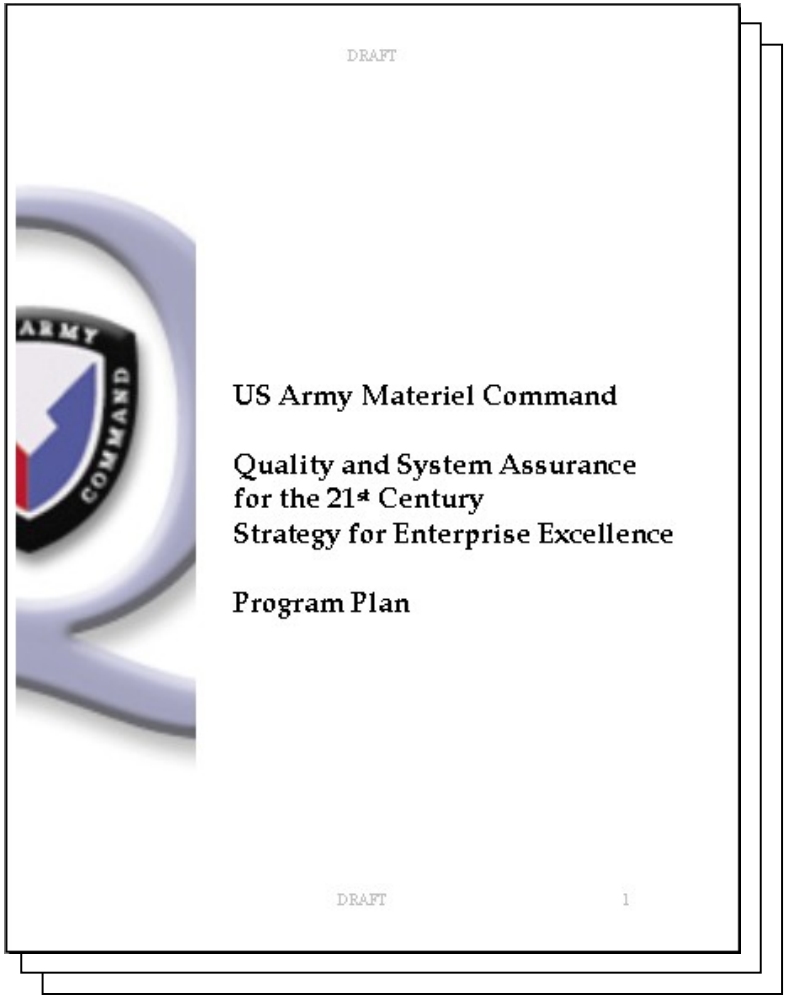
"I'm tasking the AQF to develop a concept for Q&SA within the RDECOM."
MG John C. Doesburg, RDECOM, 19 Sep 2003

Q_{21} Framework

- Quality Management Systems
  - ISO, AS, TS, TL, NATO
- Quality System Assessments
  - “(CP)2”, QSL, CMM-I
- Quality Engineering
  - DFL/6σ, DF Supply Chain, DMSMS
- Quality Assurance
  - POS, SPC, FAT/LAT, PCA/FCA, CIVR
- Quality Performance Assessment
  - PPAIS, PPIMS, RAMP, VOC

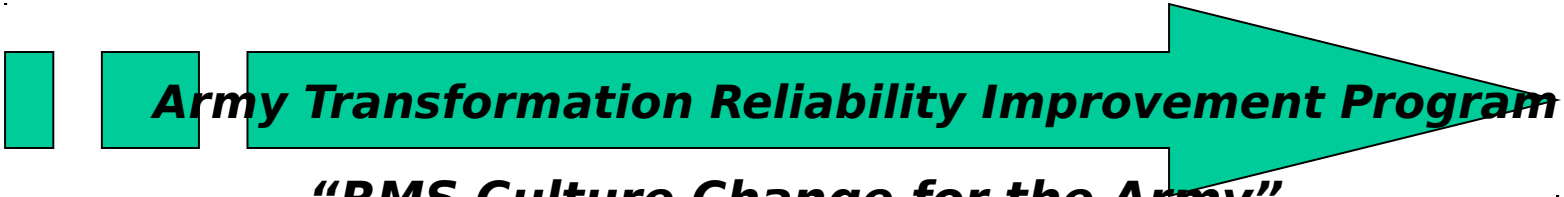
- Quality Performance Improvement
  - Six Sigma, Lean
- Quality Workforce Credentials
  - CQM, CQE, CQA, CPM, MS QE, MS Mantech
- Quality Partnerships
  - NASA, DCMA, OSD QMO, ADQMC, MDA, JDPA

Draft AMC Q_{21} Enterprise Excellence Program Plan



- Reference 12 Jan 04 Brief to Gen Kern
- Plan for Cmdr, AMC Endorsement/Approval
- Draft – Subject to AQF & AMC G3 Concurrence
- Includes:
  - Current Initiatives
  - Deployment Model
  - Implementation Infrastructure
  - Notional Schedule
  - Lead System Integrator

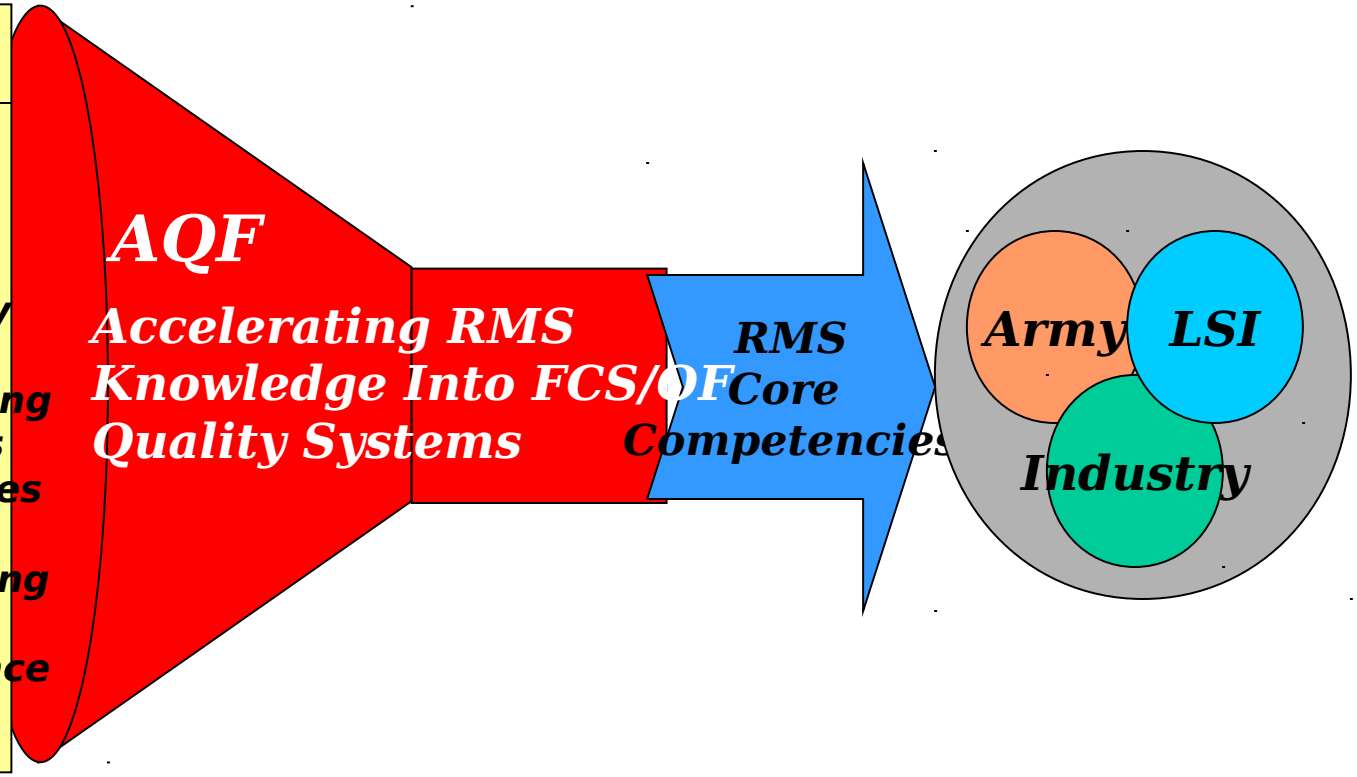
AQF & ATRIP



"RMS Culture Change for the Army"

ATRIP

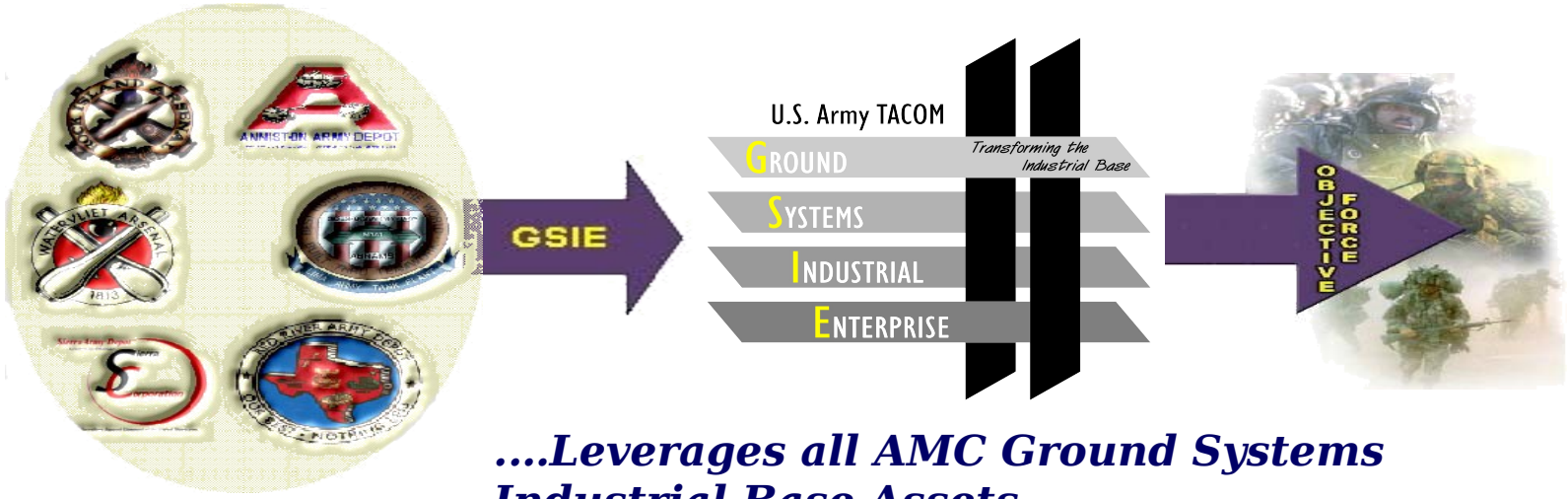
World Class Tools
Best Practices
RMS Technologies
SW Reliability
Network Reliability
SoS Reliability
"Pit Stop" Engineering
Diag/Prog Sensors
Probabilistic Analyses
Physics of Failure
Predictive Engineering
LC Cost Models
Progressive Assurance
PBL/RCM
etc



F – the Quality Foundation for Transformation Succ

AQF & the GSIE

- Operates an Industrial Enterprise Utilizing Designated Sites
- Member of the AQF Community of Practice
  - QA Directors at ANAD & RRAD
  - Use of Quality Function Deployment
  - Process Transformation & Standardization
    - Lean/6σ Initiatives at all Sites
  - Enterprise ISO 9001:2000 Registration
    - GSIE Contract w/Site Certification
  - Enterprise Metrics: Quality, Cost, Schedule & Customer Satisfaction



....Leverages all AMC Ground Systems Industrial Base Assets

AQF & J.D. Power

- Current Army Supplier Management through DCMA RAMP, Partnerships and use of PPI
- Customer Satisfaction Ratings often Play a Role in Commercial Buying
- J.D. Power provides Customer Ratings for several Sectors (Automotive, Services Consulting, Energy/Communications, Travel, Finance & Home Building)
- The AQF facilitated meetings with PM Stryker, GDLS, DCMA & J.D. Power whereby it was determined that the Stryker would serve as an Army Pilot for J. D. Power's Voice of the Customer Assessm

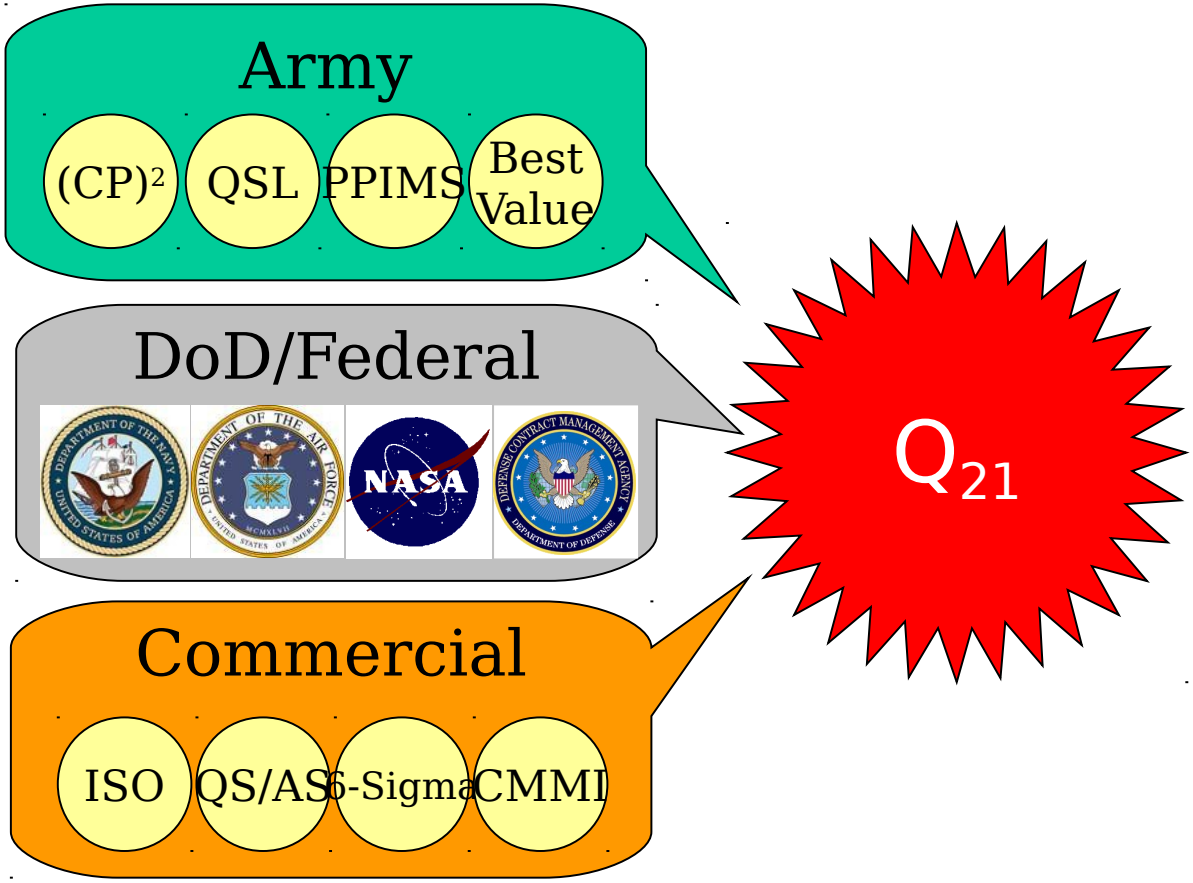
AQF & LMP

- Assuring Quality input in the Logistics Modernization Program (LMP) and the Tools used by Quality Professionals
- SAP-based Programs to replace:
  - Standard Depot System (SDS)
  - Command Commodity Standard System (CCSS)
- Total Integrated approach across AMC
- AQF on site at Contractors Facility, Moorestown, NJ
- Participated in New Process Creation and Reviewed SAP Applications for Quality Processes

AQF & Lean/6σ

- Lean/6σ is Key AQF Business Tool
  - Transforming Processes and Management Concepts
  - AQF cuts across all AMC
    - Total Life Cycle Responsibility
    - Working with both Simpler and VSE
    - Positioned to Implement Lean/6σ
- Standardizing Cost Savings using VE Process
  - Recognized Standard
  - Independent Evaluation
  - GAO Critical of Low VE Savings
- Proposed Implementation
  - AMC Leadership
  - AQF as Executive Agent
  - 05 Jun Meeting with AMC G3

Quality Supplier Management



- Customer-Focused
- Supplier-Sensitive
- Risk-Based
- Performance-Based
- Objective
- Quantitative

$$QSM = \boldsymbol{f}\,(\text{Quality System Management \& Past Performance})$$

AQF & FCS

- 05/21/03 Meeting at Boeing Integrated Defense Systems, Philadelphia, Attendees:
  - AQF (ARDEC, AMRDEC)
  - PM FCS (Product Assurance Manager)
  - Boeing Quality (Multiple Sites)
  - DCMA (HQ, St. Louis & Philadelphia)

- Boeing Briefs on; FCS Program Overview, FCS Quality Organizational Structure, FCS Quality Program & FCS Supplier Management
- Points of Note:
  - Quality Program Director Accountable to FCS Program Manager
  - Quality Team Embedded throughout the FCS Enterprise, including; Site (internal) QA, Software QA, Supplier QA, Reliability and Mission Assurance
  - Full deployment of the Boeing Quality Management System (AS9100 +) to all Business Units, Sites & Suppliers
  - A Preferred Supplier Certification for Acquisition & Partnering
  - Boeing Supplier Management Relying Heavily on Primes & DCMA

AQF & FCS (cont.)

- Outcomes:
  - Positive Foundation for Boeing/Army/DCMA FCS Partnership
  - Details TBD in Subsequent Meetings
  - Follow-on Meetings on FCS Reliability and Software Quality
- Actions:
  - PM FCS & AQF to ID Army FCS Quality Structure & Coordinate Insight functions with DCMA St. Louis (Lead FCS Integrator)
  - PM FCS to ID CECOM/CERDEC Quality Resources
- Issues:
  - Level of RDECOM Quality/AQF Support
  - Level of DCMA Support via QALIs